wherein the array has linear organization;

wherein each peptide or protein is represented in the array at least twice at discontinuous regions of the array;

wherein the peptides or proteins are members of a combinatorial library;

wherein each peptide or protein is attached to a pre-determined portion of the optical fiber; and

wherein the peptides and proteins are not intermediates leading to a single final product.

31.   (Amended)   An array of at least two different peptides or proteins attached to an optical fiber, wherein the array has linear organization;

wherein each peptide or protein is represented in the array at least twice at discontinuous regions of the array;

wherein the peptides or proteins are members of a combinatorial library;

and wherein the array is prepared by a method which comprises steps of:

providing an optical fiber having reactive functionalities;

subjecting said fiber to a first set of reagents or reaction conditions, wherein each of said first reagents or reaction conditions cycles with a first specific spatial period along the support, and wherein each individual first reagent or reaction condition in the set is identified as a function of a unique distance or time, so that a first set of peptides or proteins is produced simultaneously on the array, each peptide or protein within first set being related to all other peptides or proteins in the first set as a product of the first set of reagents or reaction conditions, and being separated from other first set peptides or proteins by the first specific spatial period; and

subjecting said fiber to one or more additional sets of reagents or reaction conditions, wherein each of said additional reagents or reaction conditions cycles with a second specific spatial period along the support, and wherein each individual reagent or reaction conditions in said one or more additional sets is identified as a second function of unique distance or time, so that at least one additional set of peptides or proteins is produced simultaneously on the array, each peptide or protein within the additional set being related to all other peptides or proteins in the additional set as a product of the additional set of reagents or

reaction conditions, and being separated from other additional set peptides or proteins by the second specific spatial period, until a desired array of peptides or proteins is obtained.

32.   (Amended)   An array of at least two different peptides or proteins attached to an optical fiber, wherein the array has linear organization; wherein each peptide or protein is represented in the array at least twice at discontinuous regions of the array; wherein the peptides or proteins are members of a combinatorial library; and wherein the array is prepared by a method which comprises the steps of:

a) providing an optical fiber having reactive functional groups,

b) winding the fiber around a geometric template,

c) dividing the surface of the template lengthwise into regions,

d) subjecting each region to one or more reagents or reaction conditions so as to attach reactive moieties or to modify the functional groups, and thereby to simultaneously create a set of peptides or proteins on the fiber in which each peptide or protein in a set is related to all other peptides or proteins in the set as a product of the reagents or reaction conditions that the region was subjected to; and

e) repeating steps (b) through (d) until the desired [library] array is obtained.

43.   (Amended)   The array of claim 1, wherein the fiber has at least two distinct portions and the array comprises at least a first [synthesis product] peptide or protein attached to a first portion and a second [synthesis product] peptide or protein attached to a second portion.

44.   (Amended)   The array of claim 43, wherein one or both of said first and second [synthesis products] peptides or proteins include a plurality of distinct [chemical structures] amino acid sequences.

45.   The array of claim 43, wherein one or both of said first and second [synthesis products] peptides or proteins include a single [chemical structures] amino acid sequence.

46.   The array of claim 43, wherein both of said first and second [synthesis products] peptides

or proteins include a single [chemical structures] amino acid sequence.

50. (Amended) An array of at least two different peptides or proteins attached to an optical fiber, wherein the array has linear organization;

wherein each peptide or protein is represented in the array at least twice at discontinuous regions of the array;

wherein the peptides or proteins are members of a combinatorial library; and

wherein the array is prepared by a method which comprises steps of:

providing an optical fiber having reactive functionalities;

subjecting a first set of portions of the fiber to a first set of reaction conditions or reagents, each portion within said first set of portions being separated from each other by a first specific spatial period so that peptides or proteins that are related to one another as products of exposure to the same first set of reaction conditions are present periodically on the fiber separated from one another by the first specific spatial period; and

subjecting a second set of portions of the fiber to a second set of reaction conditions or reagents, each portion with said second set of portions being separated from each other by a second specific spatial period so that peptides or proteins that are related to one another as products of exposure to the same second set of reaction conditions are present periodically on the fiber separated from one another by the second specific spatial period, until a desired array of peptides or proteins is obtained.

Please add the following new claims:

--51. (New) The array of claim 1, wherein each peptide or protein is represented in the array at least three times at discontinuous regions of the array.

52. (New) The array of claim 51, wherein distance from a first occurrence of a particular peptide or protein to a second occurrence of the peptide or protein is equal to distance from the second occurrence of the peptide or protein to a third occurrence of the peptide or protein.--

Please cancel claims 30, 36, 37, 47, and 48, without prejudice.